

Ekin Özman

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Bogazici University
Department of Mathematics

EDUCATION

University of Wisconsin-Madison, WI	2010
PhD in Mathematics Advisor: Professor Jordan Ellenberg Thesis Title: Rational Points on Twists of Modular Curves	
University of Wisconsin-Madison, WI	2006
MS, Mathematics	
Middle East Technical University, Ankara, Turkey	2004
BS, Mathematics	

EMPLOYMENT

Bogazici University	Istanbul, Turkey
Professor	2022 - present
Associate Professor	2017 - 2022
Assistant Professor	2014 - 2016
University of Texas-Austin	TX, USA
Postdoctoral Instructor	2011 - 2014
CRM/IHES/MPIM	Barcelona, Spain / Paris, France / Bonn, Germany
European Postdoctoral Institutes Lauréate	2010 - 2011
University of Wisconsin-Madison	WI, USA
Teaching Assistant	2005 - 2010
<i>Other Affiliations</i>	
· Abdus Salam International Centre for Theoretical Physics (ICTP), Italy Regular Associate	2022 - 2027
· University of Texas at Austin, USA, Visiting Researcher (during sabbatical)	2021 - 2022

RESEARCH INTERESTS

Arithmetic Geometry, Algebraic Number Theory
Rational Points on Curves, Brauer-Manin obstruction, Modular Curves
Invariants of Curves over Algebraically Closed Fields of Characteristic p

PUBLICATIONS

On Ternary Diophantine Equations of Signature $(p, p, 3)$ over Number Fields, with Isik and Kara, to appear in Canadian Journal of Math

The boundary of the p -rank 0 stratum of the moduli space of cyclic covers of the projective line, with Pries and Weir, to appear in Nagoya Math. J.

S-Unit Equations and the Asymptotic Fermat Conjecture over Number Fields, with S. Siksek, Number Theory, Proceedings of the Journées Arithmétiques XXXI, 2021

The Hasse Norm Principle in Global Function Fields, with A. Mânzăţeanu, R. Newton, N. Sutherland, R.G. Uysal, Women in Numbers Europe III, Research Directions in Number Theory, 2021

On Ternary Diophantine Equations of Signature $(p, p, 2)$ over Number Fields, with Isik and Kara, in Turkish J. Math. 44, no. 4, 1197–1211, 2020

A bound on the primes of bad reduction for CM curves of genus 3, with Kilicer, Lauter, Garcia, Newton and Streng, in Proc. Amer. Math. Soc. 148, no. 7, 2843–2861, 2020

Asymptotic Generalized Fermat's Last Theorem over Number Fields, with Yasemin Kara, in International Journal of Number Theory 16, no. 5, 907–924, 2020

Rational Points On Twisted Modular Curves, in Automorphic Forms and Related Topics edited by Anni et al, Contemporary Mathematics, Volume 732, AMS, 2019

Quadratic Points on Modular Curves, with S. Siksek, Mathematics of Computation, Volume 88, Number 319, Pages 2461–2484, 2019.

On the existence of ordinary and almost ordinary Prym varieties, with R. Pries, Asian Journal of Mathematics, Vol. 23, No. 3, pp. 455-478, 2019

Non-ordinary curves with a Prym variety of low p -rank, with TO. Celik, Y. Elias, B. Gunes, R. Newton, R. Pries and L. Thomas, Women in Numbers Europe 2, Research Directions in Number Theory, Association for Women in Mathematics Series Vol. 11, Springer, 2018

RLWE Cryptography for the Number Theorist, with Y. Elias, K. Lauter and K. Stange, Directions in Number Theory, Association for Women in Mathematics Series, Volume 3, Springer, 2016

The distribution of \mathbb{F}_q -Points on cyclic ℓ -Covers of genus g , with A. Bucur, C. David, B. Feigon, N. Kaplan, M. Lalin and M. Wood, International Math Research Notices, No. 14, pp. 4297-4340, 2016

Provably weak instances of Ring-LWE, with Y. Elias, K. Lauter and K. Stange, Advances in Cryptology-CRYPTO2015, 63-92, Springer, 2015

Bad reduction of genus-3 curves with complex multiplication, with I. Bouw, J. Cooley, K. Lauter, E. Garcia, M. Manes, R. Newton, Women in Numbers Europe, Research Directions in Number Theory, Association for Women in Mathematics Series, Volume 2, Springer, 2015

Local - global trace questions, with M. Ciperiani, Proc. Amer. Math. Soc. 143, 3815-3826, 2015

Unramified Brauer classes on cyclic covers of the projective plane, with C. Ingalls, A. Obus and B. Viray with an appendix by H. Thomas, Proc. of Brauer groups and obstruction problems, 115-153, Birkhauser, 2016

On Polyquadratic Twists of $X_0(N)$, Journal of Number Theory, Volume 133, pp. 3325-3338, 2013

Newton and Hodge polygons for a variant of the Kloosterman family, with R. Bellovin, S. Garthwaite, R. Pries, C. Williams and J. Zhu. AMS/CRM Contemp. Math. Women in Numbers 2: Research Directions in Number Theory, Amer. Math. Soc., Providence, RI, 2013

Points on Quadratic Twists of Modular Curves, Acta Arithmetica, Volume 152, Number 4, pages 323-348, 2012

Semi-direct product Galois covers of curves in characteristic p , with L.Gruendken, L.Hall-Seelig, B. Im, R. Pries and K. Stevenson, Fields Inst. Commun., 60, Amer. Math. Soc., Providence, RI, 2011

Volumes Edited

- 2018 Women in Numbers Europe 2, Research Directions in Number Theory, AWM Series, Volume 11, Springer (co-editor)

Popular Math Articles

- Gizemli Matematiksel Köprüde Çığır Açıcı Gelişme, Bilim ve Teknik 2022 with I. Sezer Celik
- Kadın Matematikçiler Komitesi, Matematik Dünyası 2022
- Düzgün Asallar, Matematik Dünyası 2021-I
- Keşiflere Açılan Kapı: Hatalar, Matematik Dünyası 2014-I with A. Bassa
- A4 kağıt, Pentagon ve Arşimet'in Sıgırları, Matematik Dünyası 2014-II with A. Bassa
- Sır Vermeden Kanıtlamak, Matematik Dünyası 2014-IV with A. Bassa
- Sayıların Geometrisi, Matematik Dünyası 2014-II
- Matematiksel Origami, Bilim ve Teknik 2006

RESEARCH GRANTS, SCHOLARSHIPS, AWARDS AND HONORS

Research Project Grants

As project PI:

- Solving Diophantine Equations: A Modular Approach 2017 - 2020
Funded by The Scientific and Technological Research Council of Turkey (TUBITAK 1001)
- Algebraic Curves and Associated Abelian Varieties 2015 - 2017
Funded by Bogazici University Scientific Research Projects

As researcher:

- Curves over Finite Fields, their Jacobians and Abelian Varieties 2018 - 2020
Bosphorus Joint Project: Cofunded by The Scientific and Technological Research Council of Turkey and French Ministry of Foreign Affairs (TUBITAK 2509)

As Supervisor:

- Co-Funded Brain Circulation Scheme: Low Degree Points on Modular Curves 2020 - 2022
Cofunded by The Scientific and Technological Research Council of Turkey and EU (TUBITAK 2236)

Research Fellowships and Scholarships

- Turkish Scientific Research Council International Postdoctoral Research Fellowship 2021 - 2022 (TUBITAK 2219)
- Turkish Scientific Research Council Reintegration Fellowship 2014 - 2016 (TUBITAK 2232)
- Bing Fellowship in Mathematics (University of Texas) 2012 and 2013
- Elizabeth S. Hirschfelder Scholarship (UW-Madison) 2010

Grants and Scholarships for Short Scientific Visits

- Max Planck Institute for Mathematics, Bonn, Germany(6 months)¹ 2022

¹had to be turned down for personal reasons

- Max Planck Institute for Mathematics, Bonn, Germany January 1-31, 2020
- Max Planck Institute for Mathematics, Bonn, Germany August 1-31, 2014
- AWM-NSF Mentoring Travel Grant 2013
- Colorado State University, Fort Collins, USA August 3-24, 2012
- IHES, Bures-Sures-Yvette, France June 1-July 31, 2012
- CRM, Barcelona, Spain March 14-21, 2011
- AWM-NSF Travel Grant 2011

Grants for Conference Organization

- Turkish Math Society (co-PI) 2018
Antalya Algebra Days
- NTF, Compositio Foundation, Clay Mathematics Institute, Microsoft Research (co-PI) 2016
Women in Numbers Europe 2

Awards and Honors

- Science Academy Young Scientist Award(BAGEP) 2016
- Bogazici University Academic Accomplishment Award 2016
- Selected participant of Heidelberg Laureate Forum 2014
- UT-Austin Services for Students with Disabilities Clock Award 2012
- UW-Madison Mathematics Department Best TA award 2008 and 2009
- University Housing's Honored Instructor Award(UW) 2008

TALKS

Conference and Workshop

- 65. Front Range Number Theory Day, Colorado (*Invited Speaker*) 2022
- 64. CMS Winter Meeting, Algebraic Number Theory Session (online) (*Invited Speaker*) 2021
- 63. FGC-IPM Joint Number Theory Meeting (online) (*Invited Speaker*) 2021
- 62. Women and Mathematics: Number Theory, Istanbul (*Invited Speaker*) 2020
- 61. Journées Arithmétiques XXXI (*Pleanary Speaker*) 2019
- 60. Women and Mathematics: Applied Math, Memorial of Mehpare Bilhan (*Invited Speaker*) 2019
- 59. Arithmetica Izmir-2 (*Invited Speaker*) 2019
- 58. 25th Number Theory in Flanders: Spring Meeting, Leuven, Belgium (*Invited Speaker*) 2018
- 57. National Mathematics Symposium of Turkey (*Pleanary Speaker*) 2018
- 56. The Second Romanian-Turkish Mathematics Colloquium (*Pleanary Speaker*) 2017
- 55. Arithmetic Aspects of Explicit Moduli Problems, BIRS, Canada 2017
- 54. Arithmetic and Low Dimensional Hyperbolic Spaces (*Pleanary Speaker*) 2016
- 53. Building Bridges Workshop on Automorphic Forms and Related Topics, Sarajevo 2016
- 52. Third Workshop of Association for Turkish Women in Maths (*Pleanary Speaker*) 2016
- 51. Antalya Algebra Days, (*Pleanary Speaker*) 2015
- 50. Arithmetic, Geometry, Cryptography and Coding Theory Luminy, CIRM, France 2015
- 49. National Mathematics Symposium of Turkey (*Invited Speaker*) 2014

- 48. Workshop on Women in Number Theory, BIRS, Canada (*Invited Speaker*) 2014
- 47. SIAM Mini Symp. on Cohomology of Abelian Varieties (*Invited Speaker*) 2013
- 46. AMS Special Session on Number Theory and Geometry, San Diego (*Invited Speaker*) 2013
- 45. AWM-JMM Workshop on Number Theory, San Diego 2013
- 44. Special Number Theory Day, Sabanci University, Istanbul, Turkey (*Invited Speaker*) 2011
- 43. Noncommutative rings and their applications, University of Artois, Lans, France 2011
- 42. Algebra and Number Theory Symposium (in honor of Prof. Dr. Mehpare Bilhan) 2010
- 41. AMS Special Session on Arithmetic Geometry Session, San Francisco (*Invited Speaker*) 2010
- 40. Women and Mathematics, IAS 2010
- 39. Midwest Number Theory Conference for Graduate Students V 2007

Seminar and Colloquium

- 38. Number Theory Web Seminar 2022
- 37. Diophantine Geometry Seminar, Warwick, UK 2021
- 36. VaNTAGe Seminar Series (8th topic on Modular curves and Galois representations) 2021
- 35. MSGSU General Seminar 2019
- 34. Sabanci University Algebra Seminar 2018
- 33. Gebze Technical University Colloquium 2018
- 32. Scientific Colloquium of Croatian Mathematics Society, Zagreb, Croatia 2018
- 31. Galatasaray University Algebraic Geometry Seminar 2015
- 30. Max Planck Institute for Mathematics, Number Theory Seminar 2014
- 29. Colorado State University, Algebraic Geometry Seminar 2014
- 28. MSGSU General Seminar 2014
- 27. Bogazici University Colloquium 2013
- 26. Izmir Institute of Technology Departmental Seminar 2013
- 25. Rice University Algebraic Geometry Seminar 2012
- 24. University of Texas-Austin Number Theory Seminar 2011
- 23. Max Planck Institute for Mathematics Number Theory Seminar 2011
- 22. Northwestern University Number Theory Seminar 2010
- 21. Centre de Recerca Mathematica(CRM) Barcelona 2010
- 20. University of Georgia-Athens Number Theory Seminar 2009

Lecture/Mini Courses

- 19. TMD-Summer School on Algebraic Number Theory, Feza Gursey Science Center 2018
- 18. CIMPA-ICTP research school on Artin L-functions, Nesin Mathematics Village 2017
- 17. Diophantine Equations: A Modular Approach, Istanbul-Ankara Algebraic Geometry and Number Theory Meetings 2017

16. Reciprocity Laws (from Gauss to Shimura), Istanbul-Ankara Algebraic Geometry and Number Theory Meetings 2016
15. Koc University Mathematics Seminar 2016
14. Arithmetic Statistics, Istanbul-Ankara Algebraic Geometry and Number Theory Meetings 2015
13. Disparity in Selmer Rank Seminar Series, IMBM 2015
12. Introduction to Geometry of Curves, Nesin Math Village Winter School 2015
11. Lectures on Abelian Varieties with Complex Multiplication, IMBM 2015

Popular Math/Outreach

10. ICM Best Practices Towards a More Diverse and Inclusive Mathematical Community Panel 2022
9. DRP Turkey 2022
8. Women in Science Interview with Sinav Middle School (online) 2021
7. Academic Career Abroad, Gazi University Career Committee Panel (online) 2021
6. Gender Gap in Science, IMBM 2020
5. 7th Spring Math Meeting for Students, Bogazici University 2020
4. Introduction of IMU-CWM Committee- WIN-E3, Rennes, France 2019
3. 3rd Spring Math Meeting for Students, Galatasaray University 2018
2. Fermat's Last Theorem, Bogazici University Math Society 2016
1. A modest Introduction to Number Theory, AWM-student chapter of UT-Austin 2014

TEACHING

Instructor

- Bogazici University:

Calculus I and II (Math 101 and 102), Calculus I for Math Students(Math131), Discrete Mathematics(Math 162), Matrix Theory(Math201), Differential Equations(Math 202), Linear Algebra(Math 221), Group Theory(Math 222), Rings Fields and Galois Theory(Math 323), Complex Analysis I(Math 338), Projective Geometry(Math 477), Introduction to Algebraic Geometry(Math 48U), Graduate Algebra I (Math 521), Graduate Algebra II (Math 522), Algebraic Number Theory(Math 525), Selected Topics in Algebra and Topology(Math 584), Elliptic Curves(Math 58Q), Arithmetic Geometry(Math 58C)

- University of Texas at Austin:

Algebraic Structures-I(M 373K), Algebraic Structures-I(M 373L), Elliptic Curves(M 390C), Sequences, Series, and Multivariable Calculus(M 408D), Differential and Integral Calculus(M 408C), Elementary Number Theory(IBL section)(M 328K), IElementary Number Theory(M 328K), Integral Calculus for Science (M 408S)

- University of Wisconsin-Madison:

Intermediate Algebra(Math 101)

Advising and Mentoring

- Academic Advisor

Class of 2020 at Bogazici University (40 Students)

· Directed Study

Number Theory(UT-Austin, with undergraduates)

Class Field Theory(UT-Austin, with graduate students)

Rational Points on Elliptic Curves(UT-Austin and Bogazici University with undergraduates)

· Undergraduate Thesis

2020, Eray Karabiyik, *A first course on modular forms*

2020, Alper Cakan, *Algebraic Number Theory*

2019, Feyzanur Berksoy, *Basics in Quadratic Number Fields*

2018, Bartu Bingol, *A Brief Introduction to the Concepts of Algebraic Number Fields*

2017, Emre Gungor, *Extending Sets via Hilbert Symbol*

· Graduate Thesis

2017, Kubra Kaytanci(MSc), The Ordinary Component of ℓ -isogeny Graph of Elliptic Curves

2017, Ilkiz Bildik, (MSc), Different Versions of the Modularity Theorem

2018, Eda Kirimli, (MSc), A Survey about Inverse Galois Problem

2019, Erman Isik, (MSc), Modular Approach to Diophantine Equations

2019, Tugce Koc (MSc), ABC conjecture and its implications

2019, Harun Kir (MSc), Class Number One Problem and Modular Curves

ongoing, Pinar Degirmenci (MSc)

ongoing, Omer Avci (MSc)

ongoing, Begum Gulsah Cakti (PhD)

· Post-doctoral Researchers

2020-2022 Ozlem Ejder (PhD, Southern California University)

2017-2020 Yasemin Kara (PhD, Cornell University)

· Project Co-leader

2019, *Failures of the Hasse norm principle in function fields* in Women in Numbers Europe-3 with co-leader R. Newton

2016, *p-ranks of Prym varieties over finite fields* in Women in Numbers Europe-2 with co-leader R. Pries

· TA Mentoring

2007 - 2009 *New International Math Teaching Assistant(ITA) Orientation Coordinator*: UW-Madison. Observing and giving feedback to new ITAs teaching and organizing activities to help them improve their teaching

· K12 Mentoring

2001 - 2005 Mentoring elementary and middle school students in several small villages of Turkey as a member of Educational Funds for Elementary Schools (Ilk Ogretim Okullarina Yardim Vakfi)

PROFESSIONAL SERVICE

Conference (Co)-organizer

2022, The World Meeting for Women in Mathematics(online)
 2022, General CWM Ambassadors Meeting (online)
 2021, Istanbul Center for Mathematical Sciences Number Theory Seminar(online)
 2020, Women and Mathematics: Number Theory, Istanbul Center for Mathematical Sciences
 2019, p-adic modular forms, A mini-satellite conference to Journées Arithmétiques XXXI, Istanbul Center for Mathematical Sciences
 Mirzakhani Memorial(part of May 12 initiation), Istanbul Center for Mathematical Sciences
 2018, Antalya Algebra Days, Nesin Mathematics Village
 2018, Summer School on Effective Geometry and Arithmetic of Curves, Feza Gürsey Center for Physics and Mathematics and Istanbul Center for Mathematical Sciences
 2018, TMD Summer School on Algebraic Number Theory, Feza Gürsey Center for Physics and Mathematics
 2016, Women in Numbers Europe 2, Lorentz Center, Leiden
 2007, Fifth Midwest Graduate Students Number Theory Conference

Scientific Committees

- Introduction to SAGA Symposium on Arithmetic Geometry and its Applications
- Turkish Math Society Distinguished Math Colloquium Series organizing committee
- IMBM Mathematics Days organizing committee

Editing

- Area editor of Hacettepe Journal of Mathematics and Statistics
- Editor of International Mathematics Union-Committee for Women in Mathematics Newsletter
- Member of editorial board of Matematik Dunyasi, popular math magazine of Turkish Math Society
- Member of Editorial Advisory Board of Bilim ve Teknik (ended in June 2020)

Referee Work

Journals: Proceedings of the American Mathematical Society, Journal of Number Theory, Mathematische Annalen(quick opinion), Mathematics of Computation, Turkish Journal of Mathematics, Hacettepe Journal of Mathematics and Statistics, Canadian Journal of Mathematics, Mathematika, Research in Number Theory, Proceedings of the London Mathematical Society(quick opinion), EMS Surveys in Mathematical Sciences.

Conference Proceedings: 26th Conference on Selected Areas in Cryptography, AMS Contemporary Mathematics Volume 732

Grants: National Sciences and Engineering Research Council of Canada, The Scientific and Technological Research Council of Turkey

K12 Research Projects: TUBITAK(The Scientific and Technological Research Council of Turkey) Research Project Competition for Middle School Students, TUBITAK Research Project Competition for High School Students, Uskudar American College Academic Research Conference

Professional Committees

- International Mathematical Union-Committee for Women Mathematicians 2018 - present
- Istanbul Center for Mathematical Sciences(IMBM) Management Committee 2018 - present
- Member of Women In Numbers Steering Committee 2016 - present

Departmental and University Service

- Vice-Chair, Mathematics Department, Bogazici Uni. 2019 - present
- Graduate Entrance Exam Committee, Mathematics Department, Bogazici University 2018 - 2020

- Board Member, Institute of Graduate Studies in Science and Engineering, Bogazici Uni. 2018 - 2020
- Committee Member, University Committee on Student Activities, Bogazici Uni. 2016 - present

Other Activities

PhD qualifying committee member of:

Hamide Kuru (Sabanci University, 2021), Doga Can Sertbas (Koc University, 2018)

Sena Cebeci (ITU Informatics Insitute, 2017), Neslihan Girgin (Bogazici University, 2017)